

**REMARKS**

Reconsideration of the subject application in view of the preceding amendments and the following remarks is respectfully requested. Claims 1-4 and 7-9 are pending in this application. Claims 1-4 and 7-9 have been amended herein to more particularly point out and define the subject matter regarded as inventive, as well as to address certain informalities. Claims 5-6 have been cancelled without prejudice. No new matter has been introduced by this amendment.

**Arrangement of the Specification**

The suggested guidelines provided on Page 2 of the Office Action regarding the preferred layout for the specification are noted with appreciation. It is also noted that there is no specific objection to the specification. Therefore it is respectfully submitted that no changes are required in the specification at this time.

**PTO Form 1449**

It is noted that the Examiner initialed all of the references listed on PTO Form 1449, included with the Information Disclosure Statement submitted concurrent with the filing of the application, with the exception of the Search Report of the German Patent and Trademark Office. It is respectfully submitted that all five references listed in the Search Report were also listed in the PTO Form 1449. The Search Report includes information regarding the pertinence of the five references. Therefore it is respectfully requested that the Search Report be considered in examination of this application.

**Rejections Under 35 U.S.C. § 112**

Claims 1-9 were rejected under 35 U.S.C. § 112, second paragraph as being allegedly indefinite. It is respectfully submitted that the amendments to Claim 1 obviate the rejection. Specifically, amended Claim 1 recites the “mounting ring including at least a pair of sections in the form of segments of a circle,” thus obviating the question of whether both the retaining ring and mounting ring have sections in the form of segments of a circle. Withdrawal of the rejection under 35 U.S.C. § 112 is therefore respectfully requested.

**Rejections under 35 U.S.C. § 102**

Claims 1-2 and 4-9 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 3,025,070 to Copes (“Copes”). The rejection is respectfully traversed for at least the following reasons.

Copes describes a split mechanical seal with a driver device that includes a mounting ring (17 and/or 65) that has an inner diameter somewhat larger than the outer diameter the shaft (12), and which attaches to the shaft (12) by means of radially mounted set screws (18, 70, 85). A retaining ring (23) is connected to the mounting ring (17, 65) so as to receive torque from the shaft. The retaining ring (23) holds a first seal ring (31) against a second seal ring (31’), which is in turn fixed to a stationary housing (15, 20), in such a manner that when shaft 12 rotates, the retaining ring imparts rotation to the first sealing ring (31) which seals and rotates against the stationary sealing ring (31’).

In contrast, amended Claim 1 recites a divided driver device for a mechanical face seal. The driver device is axially sub-divided into a radially divided retaining ring for retaining a seal

ring and a radially divided mounting ring for mounting to the rotary component. The mounting ring includes at least a pair of sections in the form of segments of a circle. The sections are adapted to be combined into a ring having an inner radial dimension that is smaller than that of the retaining ring *and smaller than the nominal outer radial dimension of the rotary component* for clamping engagement of the mounting ring with the rotary component.

Copes does not teach, suggest, or disclose the divided driver device recited in Claim 1, as presently amended. In particular, Copes does not describe a mounting ring with sections that can be combined into a ring having an inner radial dimension that is smaller than the nominal outer radial dimension of the rotary component (shaft 12) for clamping engagement with the rotary component, as recited in amended Claim 1. Rather, the mounting ring (17 and/or 65) in Copes is somewhat larger in inner diameter than the outer diameter of the shaft 12, and attaches to the shaft 12 via set-screws (18, 70, 85) rather than the clamping engagement recited in amended Claim 1 (Fig. 1 shows a small clearance between ring 17 and shaft 12; also, see the following: Col. 2, Lines 65-69; “sleeve 65 is provided and slid upon the shaft 12” Col. 5, Lines 18-32; sleeve 65 and collar 17 can slide axially in relation to one another, Col. 5, Lines 55-62; when set-screw 70 is removed, sleeve 65 can slide on shaft 12, Col 6, Line 72- Col. 7, Line 15).

Claim 8, as presently amended, recites a divided mechanical face seal having, *inter alia*, a mounting ring with sections that can be combined into a ring having an inner radial dimension that is smaller than the nominal outer radial dimension of the rotary component, just as recited in amended Claim 1. It has been established above with respect to amended Claim 1 that Copes does not describe such a mounting ring.

Moreover, it is respectfully noted that in contrast to Claims 1 and 8, in the embodiment shown in Fig. 6 of Copes, the driver device is not axially sub-divided into a retaining ring (23) and mounting ring (65). Rather retaining ring (23) and mounting ring (65) are sub-divided radially from each other. The axial sub-division in Claims 1 and 8 is significantly less complicated than Fig. 6 of Copes and facilitates the work involved with assembly and disassembly of the parts when a worn seal ring has to be replaced by a new one.

Since Copes does not teach, suggest, or disclose each and every element recited in amended Claims 1 and 8, it is respectfully submitted that Copes does not anticipate Claims 1 and 8, as presently amended. Amended Claims 2, 4, and 7 depend from amended Claim 1 and thus include all the elements recited in Claim 1, as presently amended. Amended Claim 9 depends from amended Claim 8 and thus includes all the elements recited in Claim 8, as presently amended. Therefore, it is respectfully submitted that for at least the foregoing reasons, Copes does not anticipate amended Claims 1-2, 4, and 7-9. Withdrawal of the rejection under 35 U.S.C. § 102(b) is therefore respectfully requested.

### **Rejections Under 35 U.S.C. § 103**

Claim 3 was rejected under 35 U.S.C. § 103(a) over Copes. For at least the following reasons, the rejection is respectfully traversed. As presently amended, Claim 3 recites a driver device according to claim 2, wherein the peripherally aligned end faces of the retaining ring have a roughness  $\leq 1.0 \mu\text{m}$ , preferably  $\leq 0.8 \mu\text{m}$ , and most preferably  $0.5 \mu\text{m}$ .

Copes does not disclose the particular roughness of the end faces recited in amended Claim 3, as per Page 5 of the Office Action. Further, it has been established above that Copes

does not teach, suggest, or disclose each and every element recited in Claim 1, as presently amended. In particular, Copes does not describe a mounting ring with sections that can be combined into a ring having an inner radial dimension that is smaller than the nominal outer radial dimension of the rotary component (shaft 12) for clamping engagement with the rotary component, as recited in amended Claim 1. Amended Claim 3 depends from amended Claim 1 and thus includes all of the elements recited in Claim 1, as presently amended. Therefore, in addition to failing to disclose the roughness, there are whole other elements of amended Claim 3 that Copes fails to teach, suggest, or disclose. Therefore it is respectfully submitted that there is no *prima facie* case of obviousness with respect to amended Claim 3 based on Copes. Withdrawal of the rejection under 35 U.S.C. § 103 is therefore respectfully requested.


**CONCLUSION**

It is respectfully submitted that none of the prior art of record, alone or in combination, teaches, discloses or suggests the invention as presently claimed. Based upon the foregoing, favorable consideration of Claims 1-4 and 7-9 is respectfully requested. If it is believed that an interview would advance prosecution, the Examiner is invited to call Applicant's representative at the number below.

It is respectfully submitted that this response is timely filed, together with the included request for a one-month extension of time and accompanying fee. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1105, under Order No. 62909(51994).

Respectfully submitted,

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